

I claim:

1. A threaded closure-container package, comprising:

5 a container having a shoulder and a neck extending upward from said shoulder and having an external thread;

a closure having a top wall and a skirt depending from a peripheral edge of said skirt, said skirt having an internal thread mating said external thread;

said closure having a rotary seal operably connected thereto;

10 said closure and container each having at least one on-direction stop mechanisms;

said closure-container package having a child resistance mechanism.

2. The threaded closure-container package of claim 1, wherein said rotary seal is a reverse taper plug seal depending from an inner surface of said closure top wall, tapered radially outward.

15 3. The threaded closure-container package of claim 2, wherein said reverse taper plug sealingly engages an inner surface of said container neck.

4. The threaded closure-container package of claim 1, wherein said rotary seal is a bead which extends inward from an inner surface of said closure skirt and sealably engages said container neck.

20 5. The threaded closure-container package of claim 1, wherein said on-direction stop mechanism has a closure lug depending from a lower peripheral edge of said closure skirt operably engaging a container lug positioned on said container.

6. The threaded closure-container package of claim 1, wherein said on-direction stop mechanism comprises a rib on a lower portion of an inner surface of said skirt and a mating rib on said neck of said container below said external thread.

7. The threaded closure-container package of claim 1, wherein said on-direction stop mechanism comprises a closure lug on an inner surface of said skirt at the joinder of said top wall and said skirt operably communicating with a container lug on an upper external surface of said container neck.

8. The threaded closure-container package of claim 1, wherein said on-direction stop mechanism comprises a rib depending axially downward from said external thread and abutting said internal thread of said closure.

9. The threaded closure-container package of claim 1, wherein said child resistance mechanism comprises at least one closure child resistance lug depending from a lower peripheral edge of said closure operably engaging at least one child resistance lug extending from said container.

10. The threaded closure-container package of claim 9, wherein two closure child resistance lugs depend from said closure skirt and are disposed around a container lug.

11. The threaded closure-container package of claim 9, wherein two container child resistance lugs extend from a container neck and mate with a closure child resistance lug.

12. The threaded closure-container package of claim 1, further comprising a tamper indicating band integral with said closure.

13. The threaded closure-container package of claim 12, further comprising a plurality of ratchets disposed on an outer surface of said container neck engaging a plurality of ratchets extending from an inner surface of said tamper indicating band.

14. The threaded closure-container package of claim 12, said tamper indicating band
5 connected to said closure by a plurality of frangible webs.

15. The threaded closure-container package of claim 12, further comprising a plurality of external ratchets extending from said container neck operably engaging a plurality of mating internal ratchets extending from an inner surface of said TI band.

16. A threaded closure-container package, comprising:
10 a rotary seal on an inner surface of a closure top wall;
said rotary seal being a plug seal tapered radially outward from said closure top wall
downward;

said rotary seal sealingly engaging an inner surface of a container neck; and,
an on-direction stop mechanism having a closure rib on a lower portion of an inner
15 surface of said skirt and a mating rib on said container neck below an external thread.

17. The threaded closure-container package of claim 15, further comprising a child resistance mechanism having at least one closure child resistance lug depending from a lower peripheral edge of a closure and operably engaging at least one container child resistance lug.

18. The threaded closure-container package of claim 16, wherein two closure child resistance
20 lugs depend from a closure skirt, each of said two closure child resistance lugs being disposed on either side of at least one container child resistance lug when said closure is applied to said container.

19. The threaded closure-container package of claim 16, wherein two closure child resistance lugs extend outward from said container neck and mate with said at least one closure child resistance lug.

20. The threaded closure-container package of claim 15, further comprising a tamper
5 indicating band integral with said closure skirt and frangibly connected to a lower portion of said skirt.

21. The threaded closure-container package of claim 15, further comprising a tamper
indicating band frangibly connected to said closure skirt.

22. The threaded closure-container package of claim 20, further comprising a plurality of
10 external ratchets extending from said container neck engaging a plurality of mating internal ratchets extending from an inner surface of said tamper indicating band.

23. A threaded closure-container package, comprising:
a rotary seal on an inner surface of a closure top wall;
said rotary seal being tapered radially outward and depending from said top wall;
15 said rotary seal sealingly engaging an inner surface of a container neck;
an on-direction stop mechanism having a closure rib on a lower portion of an inner surface of said skirt and a mating container rib on said container neck below an external thread;
and,

a child resistance mechanism having at least one closure child resistance lug depending
20 from a lower peripheral edge of said closure operably engaging at least one child resistance lug extending from said container neck.

24. A threaded closure-container package, comprising:

a rotary seal extending from an inner surface of a closure skirt and sealably engaging a container neck;

an on-direction stop mechanism including a rib on a lower portion of an inner surface of said closure skirt and a mating rib on said container neck below an external thread; and,

5 a child resistance mechanism having at least one child resistance closure lug depending from a lower peripheral edge of a closure operably engaging at least one lug extending from said container neck.

25. The threaded closure-container package of claim 23, wherein two closure lugs depend from said closure skirt, each of said two closure lugs being disposed on each side of a container
10 lug.

26. The threaded closure-container package of claim 23, wherein two closure lugs extend from said container neck and mate with a closure lug.

27. The threaded closure-container package of claim 23, further comprising a tamper indicating band integral with said closure, said tamper indicating band connected to said closure
15 by a plurality of frangible webs.

28. The threaded closure-container package of claim 26 further comprising a plurality of external ratchets disposed around said container neck and operably engaging a plurality of mating internal ratchets extending from an inner surface of said TI band.

29. A threaded closure-container, comprising:

20 a closure with a rotary seal being a reverse taper plug seal depending from an inner surface of a closure top wall, tapered radially outward, and sealingly engaging an inner surface of a container neck;

an on-direction stop mechanism including a closure lug on an inner surface of a skirt on said closure and operably communicating with a container lug on an upper external surface of said container neck;

5 a child resistance mechanism having at least one closure child resistance lug depending from a lower peripheral edge of said closure skirt operably engaging at least one container child resistance lug;

a tamper indicating band integral with said closure, said tamper indicating band connected to said closure by a plurality of frangible webs;

10 a plurality of external ratchets extending from said container neck and operably engaging a plurality of mating internal ratchets extending from an inner surface of said tamper indicating band.

30. A threaded closure-container package, comprising:

a container having a shoulder and a neck extending upward from said shoulder and having an external thread circumscribing said neck;

15 a closure having a top wall and a skirt depending from a peripheral edge of said skirt, said skirt having an internal thread mating said external thread;

said closure having a rotary seal operably connected thereto;

said closure and said container each having at least one on-direction stop mechanism;

and,

20 said closure-container package having a child resistance mechanism.

31. The threaded closure-container package of claim 29, wherein

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said rotary seal is a reverse taper plug seal depending from an inner surface of said closure top wall, tapered radially outward, and sealingly engaged to an inner surface of said container neck, wherein said on-direction stop mechanism has a closure lug depending from a lower peripheral edge of said closure skirt and operably engaging a container lug positioned on said container, and
5 further comprising a tamper indicating band integral with said closure, said tamper indicating band connected to said closure by a plurality of frangible webs, and a plurality of external ratchets extending from said container neck operably engaging a plurality of internal ratchets extending from an inner surface of said tamper indicating band.

32. The threaded closure-container package of claim 29, wherein

10 said rotary seal is a reverse taper plug seal depending from an inner surface of said closure top wall, tapered radially outward, and sealingly engaging an inner surface of said container neck, wherein said on-direction stop mechanism comprises a closure lug on an inner surface of said skirt operably communicating with a container lug on an upper external surface of said container neck, wherein two closure child resistance lugs depend from said closure skirt and are disposed
15 around a container child resistance lug when said closure is applied to said container, and, further comprising a tamper indicating band integral with said closure, said tamper indicating band connected to said closure by a plurality of frangible webs, and a plurality of external ratchets extending from said container neck operably engaging a plurality of internal ratchets extending from an inner surface of said tamper indicating band.

20 33. The threaded closure-container package of claim 29, wherein said rotary seal is a reverse taper plug seal depending from an inner surface of said closure top wall, tapered radially outward, and sealingly engaging an inner surface of said container neck, wherein said on-

direction stop mechanism comprises a closure lug on an inner surface of said skirt operably communicating with a container lug on an upper external surface of said container neck, wherein said child resistance mechanism is comprised of said closure having two child resistance lugs which extend from a lower peripheral edge of said closure and mate with a container child resistance lug which extend from said container neck, and, said package further having a tamper indicating band integral with said closure, said tamper indicating band connected to said closure by a plurality of frangible webs, and a plurality of external ratchets extending from said container neck in interference relationship with a plurality of internal ratchets extending from an inner surface of said tamper indicating band.

34. The threaded closure-container package of claim 29, wherein said rotary seal is a reverse taper plug seal depending from an inner surface of said closure top wall, tapered radially outward, and sealingly engaged to an inner surface of said container neck, wherein said at least one on-direction stop mechanism comprises a protuberance integral with said external thread on a lower portion of said container neck abutting a lower end of said internal thread, said child resistance mechanism is two closure child resistance lugs depending from said closure skirt disposed around a container child resistance lug after said closure is applied to said container, and, further having a tamper indicating band integral with said closure, said tamper indicating band connected to said closure by a plurality of frangible webs and a plurality of external ratchets extending from said container neck engaging a plurality of internal ratchets extending from an inner surface of said tamper indicating band.

35. The threaded closure-container package of claim 29, wherein said rotary seal is a reverse taper plug seal depending from an inner surface of said closure top wall, tapered radially

outward, and sealingly engaging an inner surface of said container neck, wherein said at least one on-direction stop mechanism comprises a protuberance extending radially downward from a lower end of said external thread abutting a lower end of said internal thread, said child resistance mechanism is two container child resistance lugs mating with a closure lug, and, further comprising a tamper indicating band integral with said closure, said tamper indicating band connected to said closure by a plurality of frangible webs, and a plurality of external ratchets extending from said container neck operably engaging a plurality of internal ratchets extending from an inner surface of said tamper indicating band.

36. The threaded closure-container package of claim 29, wherein said rotary seal extends from an inner surface of said closure skirt and sealably engages said container neck, wherein said on-direction stop mechanism has a closure lug depending from a lower peripheral edge of said closure skirt and an operably engaging container lug positioned on said container neck, and, further comprising a tamper indicating band integral with said closure, said tamper indicating band connected to said closure by a plurality of frangible webs, and a plurality of external ratchets extending from said container neck engaging a plurality of internal ratchets extending from an inner surface of said tamper indicating band.

37. The threaded closure-container package of claim 29, wherein said rotary seal extends from an inner surface of said closure skirt and sealably engages said container neck, wherein said at least one on-direction stop mechanism comprises a closure lug on an inner surface of said skirt operably communicating with a container lug on an upper external surface of said container neck, wherein two closure child resistance lugs depend from said closure skirt and are disposed around a container child resistance lug, and, further comprising a tamper indicating band integral

with said closure, said tamper indicating band connected to said closure by a plurality of frangible webs, and a plurality of external ratchets extending from said container neck engaging a plurality of internal ratchets extending from an inner surface of said tamper indicating band.

38. The threaded closure-container package of claim 29, wherein said rotary seal extends

5 from an inner surface of said closure skirt and sealably engages said container neck, wherein said on-direction stop mechanism comprises a closure lug on an inner surface of said skirt operably communicating with a container lug on an upper external surface of said container neck, wherein two container child resistance lugs extend from said container neck and mate with a closure child resistance lug, and, further comprising a tamper indicating band integral with said closure, said
10 tamper indicating band connected to said closure by a plurality of frangible webs, and a plurality of external ratchets extending from said container neck operably engaging a plurality of internal ratchets extending from an inner surface of said TI band.

39. The threaded closure-container package of claim 29, wherein said rotary seal extends

15 from an inner surface of said closure skirt and sealably engages said container neck, wherein said on-direction stop mechanism comprises a blunt container thread end integral with said external thread on a lower portion of said container neck abutting a lower end of said internal thread, wherein two container child resistance lugs extend from said container neck mating with a closure child resistance lug, and, further comprising a tamper indicating band integral with said closure, said tamper indicating band connected to said closure by a plurality of frangible webs,
20 and a plurality of external ratchets extending from said container neck operably engaging a plurality of internal ratchets extending from an inner surface of said tamper indicating band.



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40. The threaded closure-container package of claim 29, wherein said rotary seal extends from an inner surface of said closure skirt and sealably engages said container neck, wherein said on-direction stop mechanism comprises a protuberance integral with a lower end of said external thread on a lower portion of said container neck abutting said internal thread, wherein two
5 container child resistance lugs extend from said container neck mating with a closure child resistance lug, and, further comprising a tamper indicating band integral with said closure, said tamper indicating band connected to said closure by a plurality of frangible webs, and a plurality of external ratchets extending from said container neck operably engaging a plurality of internal ratchets extending from an inner surface of said tamper indicating band.

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